

## GENERAL HEATING

### Design

General layout and fittings including radiators are shown on plan. Contractor to complete detail design of system and installation which fully complies with all relevant current British Standards and Approved Documents.

In general we would assume that when external temperatures are [-3 / -1 (use -3 for outside London, -1 for inside London)] degrees, the heating system should be capable of maintaining +20 degrees in living areas, +18 degrees in bedrooms and +22 degrees in bathrooms. The architect has thermal calculations for all the new structure and the plumber should design with this and appropriate factors of error.

### Installation

- All plumbing to be concealed behind finishes.
- All pipework is to be lagged and pumps located to reduce any noise impact.
- All pipework to be thermally lagged both concealed within walls and where exposed in the boiler cupboard.
- Plumber is to calculate all heating and hot water loads, and to ensure that all taps and showers, etc. as specified have the relevant pumps/pressures etc. Ensure that at least 2no. showers can function simultaneously. The plumber/contractor is asked to discuss with the client their preferences and likely usage to ensure the 'best fit'.
- All plumbing work to be carried out by qualified persons only.
- All works to fully comply with all current legislation.
- All works to fully comply with Approved Documents part G, J and P as required.
- All materials shall meet with required relevant British Standards.
- The new system is to be designed to make possible reasonable expansion of the system.
- Testing of the system is to be carried out to all relevant British Standards.
- On completion of testing all necessary installation certificate(s) shall be issued.
- On completion of the installation O&M manuals shall be provided.
- On completion the contractor is to carry out a demonstration of all aspects of the fully working installation and equipment fitted as part of contractors works to the client.
- On completion please provide a guarantee for the boiler.

### Boiler

Contractor to propose system for client approval. Allow for new boiler, flue and all necessary service connections and all accessories required. Contractor to ensure specification meets new requirements.

### Drying Out

Heating systems should, as far as practical, be operational in advance of the installation of finishes and joinery. This is to allow for drying out/heave to reduce the amount of movement/shrinkage of finishes.

### Testing & Commissioning

Upon completion system is to be tested to minimum of 3 times working pressure (or to pressure suitable to that piece of equipment with the lowest acceptable test pressure). Thereafter, the contractor is to commission and operate the heating system for a period of 8 hours during which time the radiators are to be balanced and purged of air, and the system checked for operational performance. On satisfactory completion of pressure and operational performance test partially drain the system and add corrosion inhibitor. Refill, vent and leave the system in good working order.

Installation, testing etc only to be carried out by a GAS SAFE registered plumber, with all the appropriate certificates issued at completion. System to be guaranteed for min 2 years.

## HOT AND COLD WATER SERVICES

Pipework and fittings to be copper to BS2871 table X with capillary type solder ring fittings, installed in a neat and workmanlike manner, with drop pipes being truly vertical and the run of all pipework conforming to the building line. Sets and bends are to be free of all flattening, tool marks or distortions. All soldered joints are to be wiped clean of excessive flux to prevent build up of verdi gris.

Pipework rates are to be finalised and agreed with the CA before commencement of the work. Pipes routed through unheated spaces must be protected by insulation of suitable thickness to meet the requirements of the local water authority byelaws and BS6700. Wherever possible the pipe runs are to be contained within the warm areas of the building.

## GENERAL DRAINAGE

### Proposed Design

Main layout, fittings and drainage runs shown on plan - contractor to complete design of hot and cold water supply, and drainage to comply with Approved Documents part H, G and all relevant current British Standards

It is the contractors responsibility to ensure that the appropriate hot and cold water supply is provided to all bathroom/shower room sinks, showers and baths - kitchen sinks, dishwashers and appliances that require plumbing, and washbasin, utility room appliances, etc.

- Gradients and diameters to be to the current Building Regulations, and to the approval of the local building inspector.
- Pipework is to be uPVC ref: Osmadrain, conforming with the current British Standards.
- All bends and traps to be fully accessible and all runs of pipework to have adequate rodding points.
- Pipework below ground to be laid on a minimum 100mm thick pea gravel bed, with min 150mm sidefill, and 100mm cover.
- Pipework penetrating walls are to have a lintoled opening to give 50mm space all around the pipe, and both sides of the opening are to be masked with a rigid sheet material to prevent entry of fill or vermin.
- Where pipework cannot be more than 200mm from the surface, fully encase in concrete to min 100mm cover all round.
- Pipes below suspended timber floor to be clipped to underside of structure with proprietary hangers at 450 centers.

### When fitting pipework/drainage:

- Depth of seals; sink, washing machine, dishwasher = 75mm / bath, shower, WC = 50mm
- Diameter of traps; - will allow for access to clear blockages./ washbasin = 32mm / bath, shower, food waste disposal unit, sink, washing machine, dishwasher = 40mm / WC = 100mm
- Branch connections to be unventilated: washbasin = max. 3m long - 40mm pipe - slope to table in Part-H. / sink, bath = max. 4m long - 50mm pipe - slope between 18 to 90mm/m / WC = max. 6m long - slope 18mm/m

### Installation

Water supply to first fix stage and whole of drainage system to all relevant current British Standards, connecting existing pipework as appropriate. All new pipework to be concealed behind finishes. ref: Osma Waste traps and overflows.

### Rainwater

Rainwater drainage required as shown on architects drawings. Plastic rainwater goods to be Osma Rainwater pipes with round profiles, Colour:[black]. Aluminium rainwater goods to be Alumasc with round profiles, Colour: [black]

RWP's to be fitted with black plastic leaf guards, ref: FloPlast, Balloon Leaf Guard, black.

### CONTRACTOR IS NOT TO PIERCE OR FIX THROUGH ANY MEMBRANES UNLESS ABSOLUTELY NECESSARY, AND THEN ONLY TO MANUFACTURERS' INSTRUCTIONS

### Pipework and Fittings

Pipework routes to be finalised and agreed with the architect before commencing work. Supply and install all pipework in a neat and workmanlike manner. Ensure design of system allows for pressure required for shower/bathroom/kitchen equipment.

- Copper tube to BS2871 Table X with capillary type solder ring fittings to BS864 Part 2 with drop pipes being truly vertical and the run of all pipework conforming to the building line. Sets and bends are to be free of all flattening, tool marks or distortions. All soldered joints are to be wiped - clean of excessive flux to prevent build up of verdi gris. Pipes routed through unheated spaces must be protected by insulation of suitable thickness to meet the requirements of the local water authority bye laws and BS6700. Wherever possible the pipe runs are to contained within the warm areas of the building. All pipework to be concealed behind finishes except in Utility room.

- PVCU soil and vent pipework, manufacturer's standard coupling type, Nominal sizes DN 110, black plastic pipe clips, access fittings at all appropriate locations.

- Copper gas pipes Contractor's choice, sizes to suit system requirements, jointing and termination at appliance Contractor's choice, plastic spacers with single screw fixing to provide support.

### Drainage and Water Supply

- Main layout, fittings and drainage runs shown on plan - contractor to complete design of hot and cold water supply, and drainage to comply with Approved Document H and G all relevant British Standards. Include design and detailing for foul and rainwater systems.
- Gradients and diameters to be to the current Building Regulations, and to the approval of the local building inspector.
- Pipework is to be 100mm diameter pvc such as 'Osmadrain', conforming with BS4660 and BS5481. All bends and traps to be fully accessible and all runs of pipework to have adequate rodding points.
- All new drain gradients minimum of 1:40
- Pipework below ground to be laid on a minimum 100mm thick pea gravel bed, with min 150mm sidefill, and 100mm cover.
- Where pipework cannot be more than 200mm from the surface, fully encase in concrete to min 100mm cover all round.
- Pipes below suspended timber floor to clipped to underside of structure with proprietary hangers at 450 centers
- Pipework penetrating walls are to have a lintoled opening to give 50mm space all around the pipe, and both sides of the opening are to be masked with a rigid sheet material or cement to prevent entry of fill or vermin.
- Depth of seals; sink = 75mm / bath, shower, WC = 50mm
- Diameter of traps; - will allow for access to clear blockages./ washbasin = 32mm / bath, shower, food waste disposal unit, sink, washing machine, dishwasher = 40mm / WC = 100mm
- Branch connections to be unventilated: washbasin = max. 3m long - 40mm pipe - slope to table in Part-H. / sink, bath = max. 4m long - 50mm pipe - slope between 18 to 90mm/m / WC = max. 6m long - slope 18mm/m
- Drainage required to kitchen sinks, dishwashers and appliances, all bathroom/shower rooms WC's washbasins, utility room appliances. new wet sections of vent pipes to have access points at bends
- Hot and cold water supply required to all bathroom/shower room sinks, showers and baths - kitchen sinks, dishwashers and appliances that require plumbing, and washbasin, utility room appliances.
- Assumed ground conditions as per site investigation report

## TANKING/SUMPS AND PUMPS

- Cavity drain system and pumps and proprietary sumps by Delta Membrane, ref: www.deltamembranes.com installed as per manufacturers design and specification. all to meet BS EN12050 + BS EN12056-4. Chambers sized to contain 24 hr inflow (in case of disruption to service) - sub contractor to size - Allow for battery backup minimum daily discharge 150 litres per head per day.

### CONTRACTOR IS NOT TO PIERCE OR FIX THROUGH THE MEMBRANE OTHER THAN TO MANUFACTURER'S INSTRUCTIONS

Man hole covers recessed so as top is flush to floor finish, stainless steel trim, double sealed, Contractor's choice.

- Specialist Floor Drainage in Slab - Floor Drianage Layout to be Contractor's design. Drainage design to be disussed and approved by Delta Specialist prior to basement slab being installed. Setting out of floor drains in the basement slab to manufacturer's requirements, laid to falls, allow for all pipes and necessary accessories (refer to 129\_V3\_Pf). Each upturn of floor drain to serve a maxmum of 12sqm of slab. Drianage pipes to be cut flush to floor slab. Ensure rodding access to all floor drains are through the sump chambers.

## TANKING/SUMPS AND PUMPS

- Cavity drain system and pumps and proprietary sumps by Delta Membrane, ref: www.deltamembranes.com / for pumps www.ppsgroupuk.com  
**- installed as per manufacturers design and specification. use approved installers only.**

### All to be in accordance with BS 8102:2009

### \*\*Allow for preparation of RC concrete walls and floors using Polysil TG500 as per Delta membranes details and specification\*\*

All to meet BS EN12050 + BS EN12056-4  
Chambers sized to contain 24 hr inflow (in case of disruption to service) - sub contractor to size. Allow for battery backup  
Minimum daily discharge 150 litres per head per day

### CONTRACTOR IS NOT TO PIERCE OR FIX THROUGH THE MEMBRANE OTHER THAN TO MANUFACTURER'S INSTRUCTIONS

Man hole covers recessed so top is flush to floor finish, stainless steel trim, double sealed, man hole covers are Contractor's choice.

All pumps to be comissioned - with warranties/guarantees issued to the client on completion

### CONTRACTOR IS TO QUALIFY SYSTEM AT TENDER STAGE. AT LEAST 5 TAP OUTPUTS SHALL RUN CONSISTENTLY WITHOUT COMPROMISING PERFORMANCE.

### CONTRACTOR TO CONFIRM PRESSURE. IF HEADER TANKS AND PUMPS ARE REQUIRED, CONTRACTOR TO PROVIDE COST.

Services Spec	Issue	Notes	Date
59 Solent Road, NW6 1TY	c	Revision after Planning Approval	22.06.2017
Drawn By	SU		
Scale			
Status	TENDER		
Paul Archer Design Ltd	103 Farringdon Road London EC1C 3BS Tel. 020 3668 2668		

# 700.330

paul archer  
design

www.paularcherdesign.co.uk